

Susquehanna River Basin Commission

2011 Major Accomplishments

December 15, 2011



The major accomplishments are categorized based on the Priority Management Areas of the Commission's Comprehensive Plan and Water Resources Program.

1. WATER SUPPLY

Accomplishments:

Continued Improvements and Refinements to the Regulatory Program:

The improvements and refinements included:

- releasing proposed rulemaking in June 2011 followed by two public hearings in August (left photo below) and two public information sessions in October (middle and right photos);
- simplifying the process for the interbasin pad-to-pad transfer of flowback fluids;
- using and relying on technology to improve the efficiency of its Regulatory Program and access to information, including:
 - significant improvement to the Water Resource Portal;
 - 100 percent of approved projects now reporting electronically; and
 - improvements to SRBC's internal Hydra data program;

(See additional examples of significant IT-related improvements regarding the Regulatory Program under the Coordination, Cooperation and Public Information Priority Management Area, pages 4-5.)

Continued to Review and Take Action on Regulatory Applications:

SRBC continued to take key measures to keep pace with the large volume of applications from natural gas project sponsors and to assure compliance with the requirements SRBC imposes on them (see footnote for numbers of applications and approvals in 2011).¹



¹ As of November 30, 2011, SRBC received 554 Notices of Intent; approved 416 ABR Consumptive Use; Received 59 and approved 39 gas-related surface water applications; received 8 and approved 11* non-gas related surface water applications; Received 5 and approved 4 gas related groundwater applications; received 18 and approved 11 non-gas related groundwater applications; Received 24 and approved or denied 32* requests for Aquifer Test Plans/Waivers. (*include some applications received prior to 2011.)

SRBC's passby flow requirements, designed to protect the basin's aquatic resources, "triggered" at many locations throughout the summer and fall. Natural gas project sponsors were restricted from making surface water withdrawals. With regard to passbys, SRBC initiated the *Evaluation of Passby Flow Reference Gage Determinations* research project including identifying monitoring sites, developing sampling criteria and data collection protocols, and completing year-1 event-driven field discharge measurements.

Other Water Supply Accomplishments:

- Continued implementing SRBC's Consumptive Use Mitigation Plan, namely: (1) initiating technical investigation phase for optimizing use of SRBC-owned water storage at the Curwensville and Cowanesque Lakes; and (2) evaluating the use of water storage from mine pools in the anthracite region in conjunction with SRBC's Anthracite Remediation Strategy.
- Completed the Morrison Cover Water Resources Availability Study and technical report as part of SRBC's efforts related to the 2005 identification of the Roaring Spring area as a potentially groundwater stressed area.
- Assembled and worked with drinking water protection committees for the Lower Susquehanna region – covering six counties – to determine regional issues and priorities and to develop water supply protection plans. More than 50 people are participating on the committees, which are represented by water suppliers, local and state government and citizen groups.
- Developed gaming mode, in cooperation with contractor, for basin hydrologic model and conducted stakeholder-interactive drought exercise in accordance with recommendations in the Conowingo Pond Management Plan.

2. WATER QUALITY

Accomplishments:

Expanded the Remote Water Quality Monitoring Network (RWQMN):

Using funding from the Pennsylvania Department of Conservation and Natural Resources, SRBC added 10 new stations – on state forest lands – in 2011 to its state-of-the-art RWQMN. This brought the total number of stations to 51. SRBC initiated the monitoring network in 2010 in response to considerable concerns about the potential adverse impacts of natural gas drilling activities on water quality and aquatic resources, especially since this activity has occurred in some of the most pristine watersheds in the basin.² Data from these stations are available to the public via the web site; **more than 12 million water quality observations** were logged by the network at the end of 2011.



Continued focus on Mine Drainage Restoration:

SRBC completed the Anthracite Remediation Strategy. This strategy combined with existing upgrades to the 2009 West Branch Remediation Strategy database, provides detailed information on about 90 percent of the basin's AMD impairment. SRBC also completed an assessment of the AMD impacts in Drury Run and Birch Island Run; these two Clinton County watersheds were identified as priority watersheds in the West Branch Remediation Strategy. The findings for the Drury and Birch

² The stations continuously monitor and record: temperature, pH, conductance, dissolved oxygen and turbidity. In addition, water depths is recorded to establish a relationship with stream flows at select stations.

Island Run assessments were reported in SRBC West Branch Subbasin Year-2 Survey. Finally, with nearly 80 percent of the Bear Run remediation project nearly complete, there have been significant improvements in stream chemistry and aquatic life conditions, including fish returning to most stream reaches formerly considered “dead.”

Other Water Quality Accomplishments:

- Completed TMDL development for more than 300 listed stream segments, and continued or initiated work on an additional 400+ listed stream segments.
- Completed the pilot low flow monitoring study for the Juniata Subbasin, and began working on the design for a basinwide monitoring framework.
- Logged more than 1,800 data collection site visits in 2011 for 12+ SRBC monitoring projects.
- Initiated field data collection efforts for the first two research projects, including the aquatic resource survey studies.
- Produced four reports funded under the US EPA Water Quality and Pollution Prevention grant:
 - Interstate Streams Water Quality Network data collection and report
 - Susquehanna Large River Assessment Project data collection and report (shown at right)
 - West Branch Susquehanna Yr-2 Subbasin Survey (noted under AMD discussion)
 - Juniata River Yr-1 Subbasin Survey



3. FLOODING

Accomplishments:

- Received high marks for the web-based Susquehanna Inundation Map Viewer, which performed well during the devastating flooding from Tropical Storm Lee. Emergency responders and citizens from the Southern Tier of New York – where the storm caused record flooding – were able to view and use the maps to make flood risk-based decisions.
- Secured funding, in cooperation with USACE's Silver Jacket's program, for the Harrisburg flood inundation mapping project.
- Worked with partners of the Susquehanna Flood Forecast and Warning System to secure the funding needed to keep critical network infrastructure (stream and rain gages) operational through FY-11.

4. ECOSYSTEMS

Accomplishments:

Began developing a Low Flow Protection Policy in cooperation with SRBC's Water Resource Management Advisory Committee. The technical basis for the policy is The Nature Conservancy's Ecosystem Flow Recommendations for the Susquehanna River Basin report completed in November 2011.

Standardized Aquatic Resource Survey (ARS) program coordination, protocols, staffing, and report, and completed 27 surveys, with 3 of them being 2nd round assessments where withdrawals are now operational. SRBC also produced a new information sheet to help raise awareness and understanding of SRBC's ARS program.

Other Ecosystem Accomplishments:

- Produced a stream order classification using GIS for SRBC's ongoing evaluation of and considerations related to headwaters protection.
- Completed the fourth year of data collection efforts for the Whitney Point Lake Projects.

- Adapted electrofishing procedures to maximize their effectiveness in conducting biological assessments, while also collecting previously undocumented fish community data from across the basin.
- Assisted the PA Fish and Boat Commission in the investigation of diseased smallmouth bass.
- Acquired state-of-the-art fish/macro scope and imaging system, created database tracking systems for equipment inventories and field deployments.

5. CHESAPEAKE BAY

Accomplishments:

- Continued providing information/support for efforts related to improving strategies for dealing with nutrient and sediment loads from developed/developing areas.
- Established a new framework for SRBC's Chesapeake Bay storm sampling efforts.
- Joined the Maryland Department of the Environment and the US Army Corps of Engineers in launching the Lower Susquehanna River Watershed Assessment to evaluate strategies to manage sediment and associated nutrient delivery to the Chesapeake Bay.

6. COORDINATION, COOPERATION, AND PUBLIC INFORMATION

Accomplishments:

Continued Implementing Advancements in Technology to Improve Efficiency and Access to Information:

SRBC continued to invest in advanced technology in 2011, particularly in the area of the web site to improve efficiency, increase access to information and enhance transparency. The major improvements in 2011 involved: (1) the Water Resources Portal; (2) the Remote Water Quality Monitoring Network; (3) reformulating the major programs and activities web page; and (4) launching SRBC's new homepage design that made SRBC's web site more efficient to manage and more user-friendly (SRBC web team began phasing in the redesign of existing web pages to sync with the new design).



Other major technology-related improvements directly involving the regulatory program included: (1) implementing an electronic compliance inspection form and report to allow SRBC's compliance field staff to electronically complete forms, while on site such as at a natural gas pad; (2) starting the data-sharing initiative with the Pennsylvania Department of Environmental Protection using a web-based XML system; and (3) creating a Project Review Tracking System to assist SRBC staff to monitor, assign and track applications within their respective areas of responsibility.

SRBC also enhanced the efficiency of its commission meetings by going to a paperless process using Diligent Boardbooks.

Other Coordination, Cooperation and Public Information Accomplishments:

- Improved agency coordination including: (1) working with PA DEP on revisions to the MOU;
- Provided feedback to NYSDEC on the draft SGEIS.
- Made about 100 presentations to governmental, association, watershed, general public, and other nongovernmental audiences on various SRBC activities, but mostly related to SRBC natural gas development regulations.
- Convened the Water Quality Advisory Committee and the Water Resources Management Advisory Committee.
- Produced the annual comprehensive Water Resources Program with many federal and state agencies providing input as well as input from several non-governmental organizations.